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The Relationship Between Schools Utilizing Positive Behavior Interventions and Support Programs and Student Achievement

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THE RELATIONSHIP BETWEEN SCHOOLS UTILIZING POSITIVE BEHAVIOR INTERVENTIONS AND SUPPORT PROGRAMS AND STUDENT ACHIEVEMENT

by

Lori Herrington Massey

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ABSTRACT

THE RELATIONSHIP BETWEEN SCHOOLS UTILIZING POSITIVE BEHAVIOR INTERVENTION AND SUPPORT PROGRAMS AND STUDENT ACHIEVEMENT

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Incidents of student misbehavior are on the rise in classrooms across the United States. The acts of misconduct committed by students are increasing in both frequency and severity. While there is a broad spectrum of causal factors for the presentation of these behaviors, the end result is the decline of student achievement. These behavioral issues are negatively impacting student achievement by creating disruptions in the teaching process, loss of instruction for students who are serving suspensions, preoccupying administrators with dispensing office discipline referrals rather than serving as instructional leaders. To combat this rise in behavioral concerns both federal law and state policy have required the use of behavioral interventions. The state of Mississippi has specifically chosen the Positive Behavior Intervention and Support model as the model of choice for districts to implement as a part of the three tier intervention process.

The purpose of this study was to determine if the districts which had implemented a Positive Behavior Intervention and Support model had witnessed an impact in student achievement as measured by the Mississippi Curriculum Test Second Edition. The study looked at scale scores on both the language arts

and mathematics portions of the test over the four-year period of the test's implementation which coincided with the four-year period that most school districts had utilized the PBIS model. In addition, the researcher utilized a questionnaire to ascertain from the positive behavior specialists working in the districts in question if the model was utilized and if so if it had been implemented with fidelity.

Upon analysis of the data it was determined that the implementation of a PBIS model had minimal effect upon student achievement results. However, the data did indicate that the positive behavior specialists were of the impression that this model had impacted the frequency of incidents of student misbehavior. Future studies may look at the longitudinal impact of the use of the PBIS model after a greater implementation period.

The University of Southern Mississippi

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by

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A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
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DEDICATION

I would like to dedicate this dissertation to Richard Herrington. He is the greatest teacher I have ever known. As a father he taught me many of the enduring lessons of life. As a colleague he was the standard of measure by which I held myself accountable. To me he is the embodiment of what a parent and an educator should be.

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CHAPTER I

PROBLEM

Introduction

The National Association of School Psychologists in a joint statement with the National Center for Mental Health in Schools at UCLA stated that without fully integrated interventions "teachers will continue to divert precious instructional time to dealing with behavior and other problems that can interfere with classroom engagement for all students" (2009 p. 1). Student office discipline referrals account for vast losses in instructional time for school staff members as well as students. This loss of instructional time has been documented to have an adverse impact on student achievement results (Marzano, Marzano, & Pickering, 2003).

The current prevalent practices for addressing student discipline problems have been ineffective in modifying student behavior and curbing the rising numbers of office discipline referrals. Most behavior interventions currently utilized in school settings are punitive in nature. Most often some form of suspension is employed as a deterrent to future acts which are in violation of school rules or policies (Curwin & Mendler, 1999). This practice increases the lack of instructional time received by students most likely to be in need of improving their academic achievement.

In addition, many students in current education settings display inappropriate social skills and a lack of proper character development. According to author Stephen Covey, a school administrator looking to address climate change in her school conducted focus group meetings with parents and

community business leaders. Both groups were less concerned with student achievement results and more focused on the school system producing graduates who took initiative, demonstrated creativity, and could interact appropriately with those from diverse cultures and backgrounds. These are skills that both groups found lacking in the students they had witnessed matriculating in current years (Covey, 2009).

Current punitive-based interventions designed to address incidents of student misbehavior do not address this lack of skills (Covey, 2009), nor do they appear to be curbing the behaviors they are designed or purported to influence. Reports have indicated that incidents of student behavior are on the rise in terms of frequency and intensity (Bureau of Justice Statistics & National Center for Education Statistics, 2002).

Statement of the Problem

The Mississippi Department of Education has sought to address problematic student behavior through the implementation of a school-wide positive behavior intervention and support program (Mississippi Department of Education, 2010b). Such programs have been implemented in other states and/or school systems across the United States with positive results. Namely the systems that have implemented this type of intervention program have seen decreased rates of students receiving office discipline referrals (Illinois SWPBIS Network, 2008a).

The literature has indicated that student acts of misbehavior negatively impact student achievement (Marzano, et al., 2003). Although currently

implemented programs have documented statistically significant reduction in office discipline referrals, the relationship between the program and student achievement results has not been measured. Under the current federal and state accountability models, the effects of any intervention program, be it academic or behavioral, on student achievement is of paramount importance to school administrators and staff (No Child Left Behind Act, 2001).

Purpose of the Study

The purpose of this study was to determine if there is a relationship between the school-wide implementation of a positive behavior intervention and support program and student achievement results. This intervention program has been designated by the Mississippi Department of Education as an essential element in compliance with the tier intervention process (Mississippi Department of Education, 2010b). Although the SWPBIS model is not listed specifically in legislation, the use of behavioral interventions is mandated by state policy and also referenced in federal legislation. The measurement of student achievement on state approved curriculum standards is also mandated at both the state and federal level. This study sought to determine if there is a relationship between these two components of state and federal policies. It also determined if a relationship exists and what the strength of that relationship was.

In addition, the study explored the relationship between the use of a SWPBIS model and student rates of attendance as reported on a monthly basis by average daily attendance rates. The measurement of the student population's average daily attendance is also mandated by state and federal policies. The

United States Department of Education requires states to annually measure and report language arts achievement, mathematics achievement, and rates for other academic indicators (No Child Left Behind Act, 2001). The Mississippi Department of Education elected to utilize average daily attendance rates and graduation rates as the state's other academic indicators (Mississippi Department of Education, 2010b).

Hypotheses and Research Question

The purpose of this study was to determine if there is a relationship between the implementation of a school-wide Positive Behavior Intervention and Support program and student achievement results. In addition, the study determined if there is a relationship between the implementation of a school-wide Positive Behavior Intervention and Support program and school rates of average daily attendance. Therefore, the following hypotheses and research question were utilized to guide this study:

H_{01}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{02}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd

edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{03}: There will be no relationship between the initial implementation of SWPBIS average daily attendance rates and those reported during implementation, and post-implementation of the SWPBIS program.

H_{04}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

H_{05}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

Research Question: Do positive behavior specialists working in schools that utilize a SWPBIS model feel that it is an effective means of managing student behavior, and thereby impacting student achievement?

Definition of Terms

Average Daily Attendance – This rate is based on the average of the monthly attendance rates from months 1-9 of the school calendar submitted at the conclusion of each month to the Mississippi Department of Education. Month 1 is actually a compilation of the months of August and September. The Department then calculates the ADA for the year for publication in the individual school's accountability results (Mississippi Department of Education, 2010b).

Group One – For purposes of measurement this group had implemented a SWPBIS model during the 2007-2008 school year thereby yielding achievement results on the MCT2 for one year of initial implementation (2007-2008), two years during implementation (2008-2009 and 2009-2010), and one year post implementation (2010-2011).

Group Two – For purposes of measurement this group was composed of a combination of schools: those that have utilized a SWPBIS model for a period of less than four years, those that elected not to utilize a SWPBIS intervention model in their school setting.

Positive Behavior Supports and Interventions – This model for a behavioral intervention is based on a preventative problem-solving strategy. The aim is to prevent problem behaviors from occurring by providing students with systematic instruction in appropriate behaviors, followed by direct feedback when students engage in appropriate behaviors (Lewis, Sugai, & Colvin, 1998).

Positive Behavior Specialist – This job title refers to the behavior specific interventionists who provide supports for the development and implementation of

behavior intervention plans. They are also tasked in some districts with conducting functional behavioral assessments (Mississippi Department of Education, 2010b).

Office Discipline Referrals - This term specifically referenced those referrals that occur within the classroom causing a disruption in the instructional environment. These referrals must also result in the dispensation of discipline action by the building level administrator. This discipline action may include the student receiving days of out-of-school suspension. However, it will not be limited to only referrals culminating in out-of-school suspensions (Skiba & Peterson, 2003).

Out of School Suspensions – As a form of suspension, this was a punitive discipline practice that results in the student being denied admittance to school for a prescribed period based upon the student act which violated school policy (Skiba & Peterson, 2003).

Response to Intervention – This was a problem-solving model for addressing students who are presenting problems in school; both behavioral and academic. It began with quality instruction in both academic and behavioral skills. For those students not responding to this direct instruction, appropriate research-based interventions were implemented. The students' progress was frequently monitored so that decisions to revise the intervention were data driven. As the students' needs varied the intensity of the intervention was modified to accommodate the needs (Cummings, Atkins, Allison, & Cole, 2008).

Student Achievement – For the purposes of this study the terminology student achievement referred to the mean scale scores achieved by schools in the area of language arts and mathematics as calculated by the Mississippi Curriculum Test 2nd edition (Mississippi Department of Education, 2010b). The areas of language arts and mathematics were two of the areas mandated by the No Child Left Behind Act for measurement and public reporting (No Child Left Behind Act, 2001). The third was classified as other academic indicators that varied by state and across grade levels.

Assumptions

School district employed positive behavior specialists were asked which elementary schools included in the study had implemented a Positive Behavior Intervention and Support program on a school-wide basis. The assumption was made that the programs were, in fact, in place and that they had been implemented with fidelity. That means that all school personnel implemented the program as prescribed by the program developers and that the implementation was consistent across school classrooms and school settings.

The second assumption was based upon the achievement data that was collected for each of the targeted schools. This data was collected from the Mississippi Department of Education website. The assumption was made that the test data was an accurate depiction of the level of student achievement. It was assumed by the researcher that test security was properly maintained in the administration of the Mississippi Curriculum Test 2nd edition (MCT2). It was also assumed that the scores were accurately calculated by the Office of Research

and Statistics to discern the level of student achievement as measured by the scale scores gleaned from the MCT2.

Limitations

The limitations for this study included the following:

1. The data generated from this study was applicable to the state of Mississippi only.
2. Only two measures of student achievement, the language arts and mathematics scores derived from the MCT2, were utilized as a means of determining overall level of student achievement.

Delimitations

The following delimitations were set for the study by the researcher:

1. The study was limited to third grade level students, and did not include data from any higher elementary or secondary settings.
2. The measured post implementation achievement scores were taken after only four full years of the SWPBIS implementation, therefore no longitudinal data was provided by the study.

Justification of the Study

The United States Department of Education commissioned a report in 2008by the National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences to outline this group's recommendations for "Reducing Behavior Problems in the Elementary School Classroom." The report outlines five recommendations for the reduction of behavior problems including recommendation number five: "Assess whether school-wide behavior problems

warrant adopting school-wide strategies or programs and, if so, implement ones shown to reduce negative and foster positive interactions" (U. S. Department of Education, 2008, p. 3).

Despite making this recommendation the Institute felt that the level of evidence to support this recommendation was only "moderate." The evidence supporting this recommendation included one quasi-experimental study which investigated the impact this type of program had on students' social relationships (Stevens & Slavin, 1995). The Institute also found four randomized controlled trials (Frey, Nolen, Van Schojack-Edstrom, & Hirschstein, 2005), and one single subject study (Cunningham et al., 1998) which supported a specific intervention program's implementation on a school-wide basis.

This did not constitute a large or varied enough body of evidence for the Institute to feel that it had achieved a classification of "strong." To achieve this classification studies conducted must have high internal and external validity (U. S. Department of Education, 2008). Therefore, with more than 7,400 schools across the United States implementing school-wide behavior support programs (Bradley, Doolittle, Lopez, Smith, & Sugai, 2007); the need exists for a greater body of investigations to be conducted regarding the effectiveness of implementing such programs on a school-wide basis (2007).

Even those who support the implementation of school-wide character education or behavior modification programs are reluctant to address their impact upon student achievement. Author Thomas Armstrong specifically avoids a relationship between the two in his book *The Best Schools*. He does so by citing

the focus on academic achievement as the reason for the decline for such programs that address student social and emotional development in the current educational environment (Armstrong, 2003).

Summary

The negative impact of incidents of student disciplinary infractions on student achievement levels have been well documented throughout the literature (Marzano, et al., 2003). One proposed measure for addressing escalating rates of student discipline was the SWPBIS model. This was the preferred model of the Mississippi Department of Education as a part of the intervention process mandated by state policy (2010b). Although not mandated, federal policy also referenced the use of a behavioral intervention model to address discipline concerns. The use of interventions for both academic and behavioral concerns was referenced in the Individual with Disabilities in Education Act, and No Child Left Behind. There existed in the literature research-based evidence supporting this model of intervention in reducing incidents of student discipline infractions (U. S. Department of Education, 2008).

Student achievement in the state of Mississippi was measured by student performance on the MCT2. The annual measurement and reporting of student achievement was mandated by state policies and federal legislation. These mandates carried with them penalties for those schools who did not meet the standards established for student achievement levels. These penalties currently applied only to those schools which qualified for and received federal assistance in the form of Title I monies. Of note, as of February of 2012 the state of

Mississippi was seeking a waiver for the Elementary and Secondary Education Act requirements. The waiver applied to any sanctions incurred by school districts for failing to make Adequate Yearly Progress during the 2011-2012 school year (Mississippi Department of Education, 2012b).

Although it has been noted that student discipline has a negative impact on student achievement there has not been a study measuring the direct relationship between a SWPBIS model and student achievement results on either a national level or for the state of Mississippi specifically. Research does exist for other states which have implemented the model for a significant period of time (Illinois PBIS Network, 2008b). Grants, such as the Realizing Excellence for All Children in Mississippi (REACH MS), have been supplied by the federal government to foster the development of the SWPBIS model. Subsequently future studies measuring the effectiveness of these programs will be a compliance requirement for those institutions receiving grant funds (REACH MS, 2011).

CHAPTER II

REVIEW OF LITERATURE

Introduction

"If antisocial behavior is not changed by the end of Grade 3, it should be treated as a chronic condition much like diabetes" (Walker, Colvin, & Ramsey, 1995, p. 13). That is to say that antisocial behavior cannot be cured. However, antisocial behaviors can be managed with appropriate supports and continuing intervention (Walker, et al., 1995). Left unchecked these chronic behavior problems continue to escalate into school discipline issues. School discipline issues can begin to constitute a loss of instructional time due to classroom interruptions and a lack of instruction due to students being out of the classroom; which are critical factors in student achievement (Marzano, et al., 2003).

At a rate of approximately 20 minutes per referral, office discipline referrals (ODRs) create a vast loss of instructional time. Not only is the individual student missing class time as he or she is in the principal's office, but there is also the loss of the teacher's instructional time as they are preparing the referral, in addition to the administrator's loss of time as instructional leader as they are tending to the referral. Additional losses due to lack of instruction occur when students' punishment for misbehavior at school culminate in out-of-school suspensions (OSS) (Marzano, et al., 2003).

This review of literature will begin with a look at the causal factors to which current research attributes incidents of student misbehavior. This review will focus specifically on the acts of misbehavior which cause classroom disruptions significant enough to impede instruction. Then it will review what, if any, impact

student misbehavior has on student achievement. Following this section will be the methods that schools have employed to manage or correct student misbehavior. Next the focus will be on the federal legal statutes and state policies which mandate school systems to employ behavior interventions to address student misbehavior. Finally, the focus will shift to school-wide positive behavior interventions and supports specifically as a method for addressing student misbehavior. It will outline the structure of such a program. It will also detail any findings on the impact the use of such a program has materialized in student achievement results.

History of Programs in Schools

The study of student behavior is a relatively recent development in the field of educational research (Marzano, et al., 2003). Problematic student behavior research is rooted in studies from the 1970's which began to analyze teacher traits in effective classroom management. In his 1970 study, Jacob Kounin noted several critical factors in effective classroom management including student awareness of behavioral expectations during every aspect of the school day. Studies which followed found that the effectiveness of clear behavior expectations coincided with those expectations being in place early in the academic year (Marzano, et al., 2003). Outlining clear expectations once the school year had progressed beyond the initial opening of the school year did not prove to be as effective in deterring acts of student misconduct, and lessening classroom disruptions.

Robert Marzano (2003) conducted a meta-analysis of the existing research on effective classroom management covering a time period starting with Kounin's research in 1970 and culminating with a comprehensive study conducted by Margaret Wang, Geneva Haertel, and Herbert Walberg in 1993 (Marzano, et al., 2003). This research comprises the development of classroom management practices which are in effect today. The research conducted by Emmer, Sanford, Clements, and Martin in the early 1980's resulted in the production and 2003 publication of two books outlining best practice for classroom management: one for the elementary level, and one addressing the secondary level. As of 2003 those two volumes accounted for the majority of the research regarding classroom management in the K-12 setting. (Marzano, et al., 2003). These findings indicate that much of the research on effective classroom management and student behavior, which drive current educational practices, was conducted between 20 to 30 years ago.

Causal Factors for Student Discipline

Student discipline is an ongoing cause for concern among school administrators and staff. A 2001 study outlining student observations of school climate in 36 Maine and New Hampshire schools found that student perceptions of their school climate are neither safe nor secure (Wessler & Preble, 2003). The research found that one in five students reported that they did not feel safe in school. Students also reported witnessing or being the victim of aggressive, or verbal abuse by a peer or peers on a daily basis (Wessler & Preble, 2003). Other agencies such as the Centers for Disease Control and Prevention (2001), and

Bureau of Justice Statistics and National Center for Education Statistics (2002) have reported similar findings on a nation-wide basis.

Preble's research also found that between 50% and 75% of students witnessed their fellow students being harassed either verbally or physically. He also noted in the schools he studied in New Hampshire that although such incidents transpired at the elementary level, there was a marked rise in incidents of student aggression toward other students at the middle school level, and then again at the high school level (Preble, 2003). The assumption that these types of behaviors are limited to secondary settings is negated by research that has shown that even students in early childhood settings begin testing the boundaries of social conduct (Armstrong, 2006).

Many causal factors have been attributed with the rise in incidents of student misbehavior. Some blame a lack of motivation on the part of the student, or a lack of involvement on the part of the parent. Other research points to societal or cultural factors such as poverty or media influence as potential causes. Ross W. Greene (2010) points out in his article addressing "frequent flyers" that 75% of the office discipline referrals are generated by only 20% of the student population. He theorizes that these students who frequently visit the principal's office are manifesting behaviors based upon a lack of skills. He views the root cause of these behaviorally challenging students as a lack of cognitive skills, particularly the ability to problem-solve, adapt, and process frustration. Some of these students carry a diagnosis of attention-deficit hyperactivity disorder, oppositional defiant disorder, mood and anxiety disorders, or even

possibly an autism spectrum disorder (Greene, 2010). Others remain undiagnosed but still labeled as challenging within the classroom.

National studies, such as the United States Surgeon General's report on violence acts among America's youth only focus on one aspect of violent acts. To be included in the study the reported incidents had to be deemed serious in nature such as: rape, murder, attempted murder, or aggravated assault (U. S. Department of Health and Human Services, 2001). Therefore, more minor, non-felonious acts of violence and aggression committed by the nation's youth may not be as widely publicized. A report by CNN (1999), covering the research conducted in one middle school, found that 80% of the students surveyed admitted that they had engaged in at least one act of "physical aggression, social ridicule, teasing, name calling, or threatening another" (CNN, 1999, p. 1) at some point within the previous 30 day time frame.

Discipline problems amongst school-age students are rooted in many contributory factors. Some of the notable factors indicated by research include societal and environmental causes such as poverty, drug use, and exposure to crime (Barnhart, Franklin, & Alleman, 2008); all of which are factors occurring outside of school. However, there are a number of features in some school settings which contribute to student discipline problems. The table below cites the causes of discipline problems that transpire both inside and outside of school as listed in Richard Curwin and Allen Mendler's *Discipline with Dignity* (Curwin & Mendler, 1999, pp. 5-10).

Table 1

Causes of School Discipline Problems

Out-of-School Causes	In-School Causes
Violence in society	Student boredom
Effects of the media	Powerlessness
"Me" Generation	Unclear limits
Lack of secure family environment	Lack of acceptable outlets for feelings
Difficult temperament	Attacks on dignity

The *Learning 24/7* study conducted observations in 1,500 classrooms. During their observations researchers cited that in 85% of the classrooms less than half of the students in the class were noted to be on task. 35% of the classrooms observed were involved in tasks unrelated to instruction or learning (2005).

School Discipline Policies

Several features which are inherent in school discipline policies also contribute as in-school causes of discipline problems. One such feature is the wide-spread use of punitive measures for student discipline practices. Teacher preparation program address behavior management through instilling in teachers methods for creating positive behavior management systems for implementation within the classroom. When the teacher encounters a student or group of students who does not respond to this system they can become frustrated. At a

loss for other strategies to implement, the teacher will often turn to the traditional punitive behavior management system (Sugai & Horner, 2002).

Student suspensions from school have been found to be the most common form of punishment utilized nation-wide (Skiba & Peterson, 2003). Yet, out of school suspensions do not appear to be much of a deterrent to student misbehavior with over 75% of students receiving suspensions being repeat offenders (Skiba & Peterson, 2003). In addition, certain subsets of the student population have much higher frequencies of out of school suspensions. Skiba, Michael, Nardo, and Peterson (2002) found that students who were African American, male, middle and high school age, or had a disability were two to three times more likely than their peers to be suspended from school. The Civil Rights Project sponsored by Harvard University found that zero tolerance policies had not succeeded in making schools safer. Students deemed as trouble makers were removed from the school setting for the short term. However, the underlying factors which had contributed to their actions were not addressed (Civil Rights Project at Harvard University, 2000).

The high volume of student suspensions is reflective of the pervasive system of punitive disciplinary measures as a means of managing student behavior. Historically schools have focused on punishment or reactive practices, rather than proactive approaches such as instructing students in appropriate behavior (Barnhart, et al., 2008). In addition, the disciplinary practices in place in schools have been found to be inconsistent and subjective in their implementation; with a great deal of variance from school to school and

classroom to classroom. This variance in discipline practices results in frustration for administrators, staff, students, and parents (Barnhart, et al., 2008).

Another punitive discipline practice employed in the 23 states which still legalizes the practice is corporal punishment. Research conducted by pediatricians, parent groups, and educators have found the practice to be ineffective and in some instances led to increased aggressive behaviors among students (Hinchey, 2003). These findings have led to 27 states and the District of Columbia passing legislation making the practice illegal (Hinchey, 2003). In addition to being ineffective at deterring student behavior, the practice has also been found to be discriminatory in its administration.

A civil rights audit conducted in the Mobile County Public School System in Mobile, Alabama, found that black children received "65 to 70 percent of all paddlings" in the system even though they account for less than half of the total student population. Data furnished by the state of Alabama indicated that for the 1998-99 school year "73 percent of the paddlings were administered to black students who make up 41 percent of the state's student population" (Catalanello, 2001, p. 5).

Some states have taken legal action as a measure of curtailing more violent acts of student misbehavior. In some instances formal charges are made out against students who engage in acts of violence or aggression. This can lead to their prosecution within the justice court system with a status of youthful offender or youth court system. Other states have begun issuing restraining orders against students engaging in acts of physical or verbal assault on others.

Once these measures have been taken the "rate of recidivism is close to zero" (Wessler & Preble, 2003, p. 28). This would indicate that legal action is a deterrent to further violent or aggressive acts committed by the majority of students.

Other approaches for addressing student behavior have included rewarding students monetarily. Dr. Roland Fryer, Jr., a professor of economics at Harvard University, conducted a study across four municipal school systems in Chicago, Dallas, New York City, and Washington to determine the impact of students receiving cash rewards for adhering to behavior standards. Most of the schools saw an improvement in student behavior for the term of the study. However, the study produced mixed results when an analysis of the student achievement data for the period of study was conducted by an external reviewing agency (Ripley, 2010).

Yet another tactic utilized by some schools and school systems has been assigning student grades based on their behavior. This is a concept which is widely utilized in early elementary grades when social skills and developmental behaviors are part of the underlying curriculum in which students are receiving direct instruction. There is an expectation that kindergarten teachers will teach students how to follow directions or how to engage in appropriate play with their peers. It is when students reach upper elementary and secondary level that the defining line between academics and behavior becomes blurred. Current grading practices rarely incorporate any type of grading system to reflect student conduct in the upper grades. This is based on the assumption that students enter the

upper grades with the knowledge of how to demonstrate appropriate behaviors in school. This belief is held despite the increases in the number and severity of disciplinary incidents that transpire annually (Reeves, 2006). Little data exists to support or refute the effectiveness of a grading policy in the management of classroom behaviors.

School administrators have indicated classroom management is the leading area of disciplinary concern. In their estimation, a number of office discipline referrals stem from minor infractions which could have been handled within the classroom (Barnhart, et al., 2008). The most prevalent practices used to address student discipline issues are: consistent and established rules and procedures, disciplinary interventions, the fostering of teacher-student relationships, and the development of an effective mental set for teachers. Teachers who utilize effective classroom management practices with behavioral interventions average 980 disruptions to instruction per year, as compared to the approximate 1,800 disruptions experienced by the teachers who did not utilize behavior interventions (Marzano, et al., 2003).

Impact on Student Achievement

These incidents of student misbehavior, coupled with the plethora of office discipline referrals and out-of-school suspensions have negatively impacted student achievement. A 1999 study conducted by the U. S. Department of Health and Human Services, found that students exhibiting antisocial behaviors "interfere with the academic performance of all students" (U. S. Department of Health and Human Services, 1999, p. 2). Student misbehavior causes a

disruption in academic instruction for all students, followed by additional loss of instruction for the disruptive student who is removed from the classroom with an office discipline referral and/or out of school suspension. This further diminishes the likelihood of academic success for students who exhibit behavior problems (Walker, Ramsey, & Gresham, 2004).

Data indicates that students in today's school environments have greater monetary and technological advantages than preceding generations. However, they are also more likely to be diagnosed with a depressive, emotional, or behavioral disorder. Through the collaborative efforts of The University of Mississippi and Mississippi Children's Home Services the Behavioral Vital Signs (BVS) was developed as a universal screener for behavior. During the 2009-2010 school year 20,000 students in grades K-12 across the state were administered the BVS. The screener yielded the following results: youth who have had serious thoughts of suicide – 22.5%, made an attempt at committing suicide – 11.5%, identify themselves as lonely – 27.5%, report feeling anxious or depressed – 18%, and abused prescription drugs – 20%, Students report feeling that high levels of stress and anxiety are impacting their ability to achieve in-depth learning (Novick, Kress, & Elias, 2002).

Research on the implications of positive approaches to student behavior began with the work of psychologist Bernard Weiner in the early 1970's, as he was the first to indicate a relationship between student effort and student achievement. This research popularized the notion that increased effort on the

part of students culminates in increases in student achievement levels (Marzano, Pickering, & Pollock, 2001).

Although limited research has been conducted in the area, preliminary studies have found that students who exhibited diminished problem behaviors demonstrated improved responsiveness to a reading intervention (Nelson, Benner, & Gonzalez, 2003). A study conducted by Nelson, Hurley, Synhorst, Epstein, Stage, and Buckley (2009) indicated that administrators found proactive approaches to be attractive in decreasing the incidents of office discipline referrals. The study findings indicated that improvement in social skills and behavior were noted after children had received interventions as measured by teacher rating scales. (Nelson, Hurley, Synhorst, Epstein, Stage, & Buckley, 2009).

In addition, the meta-analysis conducted by Robert Marzano found that the effective use of classroom management and behavior interventions led to increased rates of student engagement. Specifically, there were .617 standard deviations higher rates of student engagement in classrooms where effective management techniques were implemented, or a 23 percentile point increase in engagement level. The increase in student engagement led to .521 standard deviations in student achievement, or a gain of 20 percentile points in student achievement scores (Marzano, et al., 2003).

The three-tier structure for addressing areas of need for students, both academic and behavioral, is a fairly current occurrence in most educational settings. Therefore, detailed research on the longitudinal impact of employing

such as model is limited. Yet, some statistical analysis of combining both academic and behavioral interventions into the comprehensive approach of a three tier model has been conducted. Particularly the emphasis has been on combining reading and behavioral interventions into a school-wide three-tier structure. The research has shown that those utilizing a comprehensive approach, encompassing both academics and behavior, demonstrated greater gains in student literacy skills than those that focused their efforts strictly on reading interventions (Stewart, Benner, Matella, & Marchand-Martella, 2007).

Federal and State Mandates

A recent report co-sponsored by the National Center for Mental Health in Schools at UCLA and the National Association of School Psychologists (NASP) identified instructional factors, and school leadership as the two primary areas of emphasis for federal school reform policies. This organization's research also indicated that removing impediments to learning, and engaging students who have become passive learners are necessary components of effective school reform. Current efforts to provide interventions in these areas are fractional, as these concerns are deemed secondary to primary reform efforts. NASP stated that in order to be effective the interventions must be implemented school-wide and become fully integrated with the school improvement plan. Included in their statement was the finding that if fully implemented these interventions could account for raising achievement levels in underperforming schools by promoting student well-being and safety. This organization also expressed its belief that the federal government must be the driving force behind establishing such reforms

(National Center for Mental Health in Schools at UCLA and the National Association of School Psychologists, 2009).

Both the No Child Left Behind Act of 2001 and the Individuals With Disabilities Education Improvement Act of 2004 contain language referencing identifying and addressing areas of deficit for students. Though not specified as a Response to Intervention (RTI) process both pieces of legislation call for quality classroom instruction or Tier 1, and scientific research-based interventions also known as Tier 2 and Tier 3 (Cummings, et al., 2008). Although both laws specifically reference effective instruction and interventions for academics, the scope of the RTI process has broadened to include behavior as well. With approximately "12% of all children and adolescents in this country having a significant emotional and/or behavioral disorder that adversely affects their social functioning" (Nelson, et al., 2009 p. 27), school districts have come to focus efforts on preventive behavioral interventions.

Included in the No Child Left Behind Act are provisions for the identification of "persistently dangerous" schools. Specifically, Section 7912 of the act outlines the "Unsafe School Choice Option." These schools are identified as unsafe based on the suspension, expulsion, and crime rates occurring on school campuses. A school which has been identified as dangerous and accepts federal funds in the form of Title I monies must inform parents of this status, and make provisions for students to transfer to schools that are deemed safe.

Other facets of the No Child Left Behind Act have motivated school systems to address problematic behavior as well. In the state of Mississippi there

are three required categories for making Adequate Yearly Progress: language arts, mathematics, and other academic indicators. Behavior interventions which are positively correlated with student achievement are designed to address the first two indicators. In addition, for the state of Mississippi the other academic indicator for grades 3-8 is average daily attendance (Mississippi Department of Education, 2010b). Coincidentally, funding for public schools in the state is also based on the average daily attendance rate for the school. Interventions which do not focus on punitive measures such as out-of-school suspensions can assist in improving average daily attendance rates by replacing suspensions with other measures.

However, there are those that argue that the scope and focus of the No Child Left Behind Act places an emphasis on academic achievement at the expense of students' social and emotional development. Some practices, such as the middle school philosophy, which was designed to be developmentally appropriate for middle grades students, have been abandoned to make more time for purely academic pursuits. Other activities, such as play, which help elementary age children develop appropriate social interactions have been replaced with tutorial time (Armstrong, 2006). As schools shift their focus to more academic pursuits under the parameters of No Child Left Behind, the number of middle schools in the country which have been identified as being in need of improvement has doubled (2006). "In the school year 2004-2005, 36 percent of all Title I middle schools were identified for improvement" (Center on Education Policy, 2005, p. 1).

The Individuals with Disabilities in Education Act as amended in 2004 stressed the requirement for school districts to conduct "child find" activities. This process requires the school system to identify and evaluate students who are suspected of having a disability which requires the provision of special education services. The Mississippi Department of Education's Office of Special Education released a new policy manual in 2009 which defined the process by which school systems would identify and evaluate students residing in the state. The criteria for identifying a student as having a specific learning disability includes criterion A which requires the system to first consider a student's response to a scientific research-based intervention. Other criteria are included as well, yet the emphasis is placed first on the student's Response to Intervention (Mississippi Department of Education, 2009).

The Mississippi State Board of Education adopted State Board Policy 4300 in January of 2005 based on the recommendations of the Mississippi Department of Education. They later adopted a revised version on May 18, 2007. This policy mandates the use of a three-tier intervention process to assist students who are struggling both academically and behaviorally. It states that every school must have a Teacher Support Team whose duty will be to develop and oversee the implementation of research based interventions to address areas of student deficits (Mississippi Department of Education, 2010b).

The language utilized in State Board Policy 4300 primarily refers to academic deficits and addresses interventions in terms of instruction. The policy outlines four criteria which would generate an automatic referral of a student to

the school's Teacher Support Team. One of these four criteria does address behavioral issues. Criterion C includes a student who has failed one of the proceeding two grades and "has been suspended or expelled for more than twenty (20) days in the current school year" (Mississippi Department of Education, 2009, p. 1).

During the month of June of 2010, the Mississippi Department of Education published the finalized version of its Essential Elements Matrix and Training Manual for Tier Two of the Response to Intervention Process. Although finalized for publication in 2010, the matrices were first introduced to school systems across the state in 2009. Therefore schools across the state have varying timelines for implementation. In addition, it has been left to the discretion of the individual school system or at times school administrator to fully implement the model (Mississippi Department of Education, 2010b).

Essential Element number 10 of the matrix requires a "system of behavioral support" at the district and school level (Mississippi Department of Education, 2010b, p. 10). In order to meet the requirements for this element the school must have in place a "school-wide behavior support plan that addresses the components of positive behavior support for Tier 2 students" (Mississippi Department of Education, 2010b, p. 10). If the school wishes to exceed the requirements for Element 10 they must produce evidence of "at least 80% of the critical elements of a SWPBIS or comparable model are in place at Tier 2" (Mississippi Department of Education, 2010b, p. 10).

The United States Department of Education has also endorsed the utilization of Positive Behavior Interventions and Support. The Office of Special Education Programs Division of the USDE has established the National Technical Assistance Center on School-wide positive behavior interventions and supports. This organization provides tools and data for individual schools or districts looking to implement a SWPBIS system in their setting (U. S. Department of Education, 2009).

Differentiated Instruction

The three tier structure for instructional intervention is an extension of the educational practice of differentiating instruction based on student needs. In his text *Fair Isn't Always Equal*, author Rick Wormeli defines differentiation as doing what is "fair" for students by maximizing their potential by working to their strengths and accommodating their weaknesses. He stresses that the definition is not that of an individualized education program, but rather the understanding that not all learners share the same needs. Differentiation requires teachers to "do different things for different students in order for them to learn when the general classroom approach does not meet students' needs" (Wormeli, 2006).

Differentiation as a process for teaching and learning is a departure from the previously long-employed instructional strategies utilized in schools. Historically many teachers have utilized the lecture method of instructional delivery. Data indicates that this method is effective with only 13% of the student population. As a result many of these teachers experience high rates of failure (Tileston, 2004).

To be effective in the modern classroom teachers can no longer teach to the class, but to the students as individuals (Tomlinson & Imbeau, 2010). As modern technology becomes integrated into the learning process so does current research on how students learn. Students in today's classrooms of are more diversified than students of previous eras. They are also coming of age in a world which is designed to be accommodating to them. With the conveniences of modern technology they have become accustomed to a society where adaptations are made and variations are offered in order to meet their individual preferences (Tomlinson & Imbeau, 2010).

There are those that would argue that differentiation constitutes a decline in the rigor of academic standards. Author Rick Wormeli contends that a classroom teacher who utilizes differentiation is a more demanding educator. In a classroom where differentiation occurs no learner is allowed to sit passively. This type of instruction requires the engagement of all learners (Wormeli, 2006).

Differentiated instruction as a framework for instructional delivery requires a great deal more preparation on the part of the teacher as well. The typical presentation of the standard curriculum will fail to meet the needs of a diverse population. Teachers must take into consideration varied learning styles, cultures, socioeconomic status, prior educational experiences, level of ability, and level of motivation. Not only must varied teaching techniques be employed, but varied approaches to classroom management must also be utilized (Tomlinson & McTighe, 2006).

The process of differentiating instruction extends beyond academics and encompasses the realm of behavior as well. An example would be a teacher who moves a student to the front of the room to accommodate for their attention deficit (Wormeli, 2006). Differentiation to accommodate student behaviors includes factors such as the classroom environment. A differentiated classroom environment is one which has the capacity to be flexible. In these settings the teacher establishes learning communities which are based upon their well established knowledge of their students. Teachers gain this insight into the commonalities and individualities of their students after frequent, thoughtful observations and utilization of tools such as interest inventories (Tomlinson & Imbeau, 2010).

The Three-Tier Structure

The School-Wide Positive Behavior Supports and Interventions framework has been defined as a decision-making model for guaranteeing access to effective instructional and behavioral interventions that will improve academic achievement and behavioral outcomes for all students (REACH MS, 2011). Based on the theoretical research of Drs. Robert Horner and George Sugai of the University of Oregon, school-wide positive behavior interventions and supports is one three-tier model designed to address student behavior. Although a recently developed approach, SWPBIS is rooted in the concepts first described in Daniel Goleman's *Emotional Intelligence*. He relayed the concept that student achievement is impacted by social and emotional factors (Goleman,1995). Goleman's work was influential in the production of later works which

emphasized a school climate which communicated clear character statements and values (Novick, et al., 2002).

The emphasis on a school-wide approach is furthered by the Principles of Character Education as stated by the Character Education Partnership which stress the school as a community approach. They further indicate that for the program to be meaningful it must be integrated into all phases of the school setting (Lickona, Schaps, & Lewis, 1995).This establishment of the school-wide community is the foundation for the first tier of a SWSWPBIS program.

SWPBIS starts with the primary tier which calls for the provision of systematic instruction of appropriate behavior to students, followed by ongoing effective classroom management techniques. Stormont, Lewis, Beckner, and Johnson cite the following four components for an effective Tier 1 SWPBIS program:

1. Clear, positively stated school-wide or program-wide behavioral expectations that are generated and directly taught by the teaching staff.
2. Consistent acknowledgment of student use and mastery of expectations.
3. Application of an instructional focus in response to student problem behavior.
4. Systematic use of consistent consequences for problem behavior. (Stormont, Lewis, Beckner, & Johnson, 2008)

Approximately 85% of the student population will respond with appropriate behaviors with the application of effective instructional practices once reserved for academics to behavior (Stormont, et al., 2008).

At the secondary tier, students who have not responded to Tier 1 are given more intensive behavioral supports. This secondary tier, or Tier 2, accounts for approximately 10% of the overall student population (Sugai, Horner, Lewis, & Cheney, 2002). However, this group of potentially at-risk students is easily identified through the evidentiary practices established in Tier 1 (Stormont, et al., 2008). Supports at this secondary level are targeted to small groups and often include: "social skill instruction, academic or pre-academic supports, and self-management strategies" (Hawken & Horner, 2003, p. 232).

Tertiary or Tier 3 supports are reserved for the most severe cases of non-respondent behavior at the secondary tier. This individualized level of support is reserved for approximately 5% of the population (Lewis, Sugai, & Colvin, 1998). Students at this level require intensive supports which have been tailored to their individualized needs. Often to meet these needs additional support services from entities such as special education, mental health, or social services may be necessitated (Stormont, et al., 2008).

The SWPBIS model has been in place school-wide, district-wide, and state-wide in some areas of the United States for over 10 years. The state of Illinois has been in the process of implementing school-wide SWPBIS for a period of time starting in 1999 (Illinois SWPBIS Network, 2008a). However, it was in the fall of 2008 that the Mississippi Department of Education released the

Essential Elements Matrix for Tier 1 citing SWPBIS as the preferred behavioral intervention model for students in Mississippi public schools.

Although cited as the preferred model by the Mississippi Department of Education, it is not been mandated by the state's board of education or the Mississippi state legislature that this be the model implemented across the state. The choice is left to the individual school districts, or in some instances the individual schools. Therefore, the implementation of a SWSWPBIS model has been sporadic around the state. Some schools have had a program in place for a number of years, while others are still at the initial implementation, as others have no such program in place at all (REACH MS, 2011).

In 2005, the Realizing Excellence for All Children in Mississippi (REACH MS) grant was awarded to the Mississippi Department of Education by the U.S. Department of Education's Office of Special Education Programs. REACH MS is a professional development grant with building capacity for the school districts' full implementation of SWSWPBIS as its focus. Goals of the program include the provision of professional development, the incorporation of all stakeholders, and meeting state established goals for the full implementation of SWPBIS. As administered by The University of Southern Mississippi, REACH MS has worked to successfully develop model sites in eight districts across the state (REACH MS, 2011).

The emphasis has been placed on the full implementation of a SWPBIS program in order to see the effects the program is purported to produce. A data analysis conducted by the Illinois SWPBIS Network measured the average

number of office discipline referrals between schools fully implementing SWPBIS (n=302) and those who partially implemented SWPBIS. Those schools with full SWPBIS implementation averaged 0.68 office discipline referrals per student, as compared to the 0.88 referrals averaged by those students in schools with partial implementation. The Network also measured the average days of out-of-school suspension between schools with full and partial implementation. The schools with full implementation averaged 0.222 days out-of-school, as compared to the 0.936 days out-of-school for those with partial implementation (Illinois SWPBIS Network, 2008b).

The state of Illinois has also followed this approach for a period of time significant enough to begin to measure its impact on student achievement. Once again the Illinois SWPBIS Network has emphasized a full implementation of the system. In its efforts to stress the significance of full implementation the organization conducted a study to measure the impact of full implementation as opposed to partial implementation on instructional time (Illinois SWPBIS Network, 2008b).

The data analysis compared seven middle schools with full implementation to seven middle schools with partial implementation in terms of percentage of students receiving office discipline referrals. Schools from both groups came from varied settings including urban and suburban. The difference between the two groups indicated 11,341 more referrals for the schools with only a partial implementation of the intervention model. With the average discipline referral resulting in 30 minutes of lost instructional time, the partial

implementation schools lost 340,230 minutes, or 945 days of instructional time over a 10-year period (Illinois SWPBIS Network, 2008b).

The same study found that the breakdown of office discipline referrals as follows:

Table 2

Percentage of Office Discipline Referrals Based on Implementation

	Full Implementation SWPBIS	Partial Implementation SWPBIS
6+ Office Discipline Referrals	2%	17%
2-5 Office Discipline Referrals	8%	19%
0-1 Office Discipline Referrals	90%	64%

(Illinois SWPBIS Network, 2008a).

The state of Illinois' SWPBIS Network collects and reports data on the state-wide implementation of this program on an annual basis. The data collection includes the number of schools and school districts that are utilizing this intervention, as well as statistical differences in disciplinary infractions. However, the data regarding impacts upon student achievement is limited. It is noteworthy that in Illinois a large number of the highest achieving schools in the state are also some of the highest in terms of students qualifying as economically

disadvantaged. In addition, minority students in Illinois made three times the gains on the Nation's Assessment of Educational Progress as the overall United States' student population (Schmoker, 2006).

Other Behavior Intervention Models

There are other behavior intervention models currently being utilized across the United States. Conscious Discipline, as developed by Dr. Becky Bailey, is one such model which has been endorsed by the Florida State Legislature. Conscious Discipline is a brain-based approach which targets responses to behavior based on the portion of the brain from which the behavior originates. Through this model the teacher identifies the brain state from which the behavior stems and then responds through:

1. Creating a safe environment.
2. Establishing a connection with the student through empathy.
3. Engaging the student in problem-solving.

This model focuses on the utilization of rules and rituals for managing classroom behaviors (Bailey, 2008). In this systemic approach it is like the SWPBIS model. It differs in that the approach varies based on the student's brain state, not the level of intervention needed to mediate the behavior (U. S. Department of Education, 2009).

Other educators, such as Harry and Rosemary Wong, also purport the critical importance of the establishment of a school-wide discipline plan. In their text entitled *The First Days of School*, they outline the development of an effective school-wide plan as beginning with clearly defined rules, or behavioral

expectations. These rules are then supported by consistently applied consequences. The consequences can be either negative or positive in their connotation. The negative consequences are the method to deter poor student behaviors, as the positive consequences are meant to foster appropriate student behaviors (Wong & Wong, 2001).

Like the SWPBIS model the discipline plan emphasizes the importance of the consistent application on a school-wide basis. The variation lies in the third tier of the SWPBIS model which addresses those students who do not respond to the consequences which are effective with the majority of the student population (U. S. Department of Education, 2009).

Theoretical Framework

Maslow's hierarchy of needs addresses the basic human needs which must be met for a person to thrive and flourish. At the base of the hierarchy lie the life sustaining needs such as air and food. Just above those and long established as one of the most basic of these needs is that of a sense of safety and security. In the educational setting this is established by the teacher's development of a relationship with the students, which fosters the students' sense of value and addresses their need to belong (Regan, 2009).

It is also established when the teacher and building administrator build a safe school culture by clearly outlining the rules to be followed by students whether at work in classroom or at play during recess (Regan, 2009). A structure which utilizes clearly defined rules and development of relationships between teachers and students yields a positive school environment. This structure is

imperative for creating an atmosphere conducive to learning. Student motivation is highly correlated to the relationship they have developed with their teacher. The relationship between student and teacher has proven to be a predictor of the level of student achievement (Rooney, 2010). Just as Vygotsky (1978) determined that the relationship between student and teacher becomes integral to the learning process at the point where the student's skill set and understanding are maximized for the student as an individual.

These conclusions are similar to those established by German behaviorism theorist Kurt Lewin, who in the 1940's proposed that behavior can be attributed to both the individual and their environment. The behavior an individual exhibits must be considered in conjunction with their personality traits as well as the social structure in which the behavior is exhibited (Jazzar & Algozzine, 2007). Behavior cannot be evaluated in isolation from the setting in which it occurred.

This finding is also congruent with the concept of reciprocal determinism as first measured by behavior theorist Albert Bandura. Bandura began to study aggressive behaviors in adolescents. His findings outlined a reciprocal relationship between behavior and environment; that both have equal ability to impact the other (Bandura, 1997). A negative social environment can contribute to negative behaviors, while negative behaviors can lead to the development of a negative social environment. Bandura's work was an expansion of the earlier research of Pavlov and Skinner in the development of the social learning theory (Bandura, 1997).

Skinner's research into operant conditioning went beyond preceding research which measured stimulated responses. He began to look at concepts such as reward and punishment as conditions for eliciting behaviors. These conditions when employed consistently were found to strengthen or foster specific behaviors. When a human being experiences consequences for their behavior, the consequence becomes internalized thereby increasing the probability of causing a modification in the behavior itself (Skinner, 2005).

One additional theoretical model which addresses student behavior includes the conflict cycle paradigm (Regan, 2009). This model illustrates how students who exhibit disruptive behaviors in the school environment have these behaviors grounded in their own irrational thought processes. These irrational thoughts are brought about by the student's personal experiences and negative self-concept (Long & Morse, 1996). The function of the behavior will not always be grounded in the student's rational understanding of their current circumstances. This may impede the student's ability to comprehend and explain the disruptive behavior they have exhibited (Regan, 2009).

Understanding of this model may guide a teacher's interactions with their students who are exhibiting externalizing or internalizing behaviors (Coleman & Webber, 2002). Externalizing behaviors are defined as those which are outward actions which results in the disruption of the learning process of all students. Internal behaviors such as anxiety and depression, although not outward expressions, are equally disruptive to the learning process of the individual student. Having this framework for understating the impact their interactions

have with both types of disruptive behaviors allows the teacher to build a relationship with the student who may have an emotional/behavioral disorder (Regan, 2009). This establishment of interpersonal relationships with students is just one method of differentiated instruction available to teachers as they attempt to meet the diverse needs of the learners in their classrooms (Tomlinson & Imbeau, 2010).

Figure 1 is reproduced from psychoeducator, Nicholas Long's research which offers a visual representation of the conflict cycle.

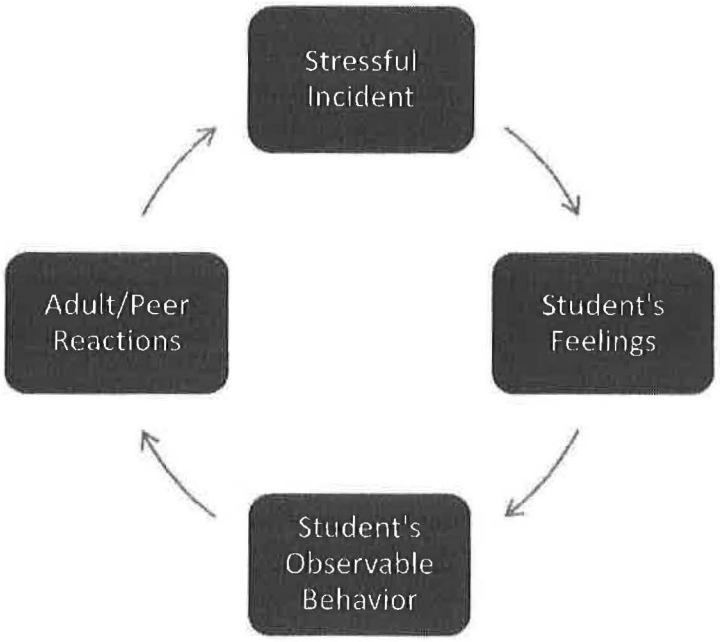

Figure 1. Conflict Cycle (Long & Morse, 1996).

A teacher's comprehension of the thoughts and behaviors may allow them to manage the behavior while preserving a positive learning environment. The ability to prevent or deescalate student behavior improves academic achievement for all students (U. S. Department of Education, 2009). The disruptive student's behavior impacts the learning of all students. The impacts of

the behavior are not confined to the individual student exhibiting the behavior (Marzano, et al., 2003).

Summary

Research on student behavior and classroom management dates back to the early 1970's. Therefore the study of student behavior and classroom development is a recently developed concentration of research in the field of education. Based on review of the literature, there are a number of underlying causes which contribute to student misbehavior in the classroom (Barnhart, et al., 2008). These acts of misbehavior result in a loss of instructional time on behalf of teachers, students, and administrators (Marzano, et al., 2003).

Teachers and administrators cannot effectively address curriculum and instruction if their time is obligated to addressing and dispensing with office discipline referrals. Students also miss out on valuable instructional time as they are out of the classroom either in the principal's office or serving some form of suspension. This loss of instruction results in a negative impact in student achievement (Marzano, et al., 2003).

Noted throughout the research are several documented programs designed to address improving student behavior and thereby student achievement. Federal statutes such as the No Child Left Behind Act and the Individuals with Disabilities in Education Act have stressed the significance of implementing interventions to meet the many needs of today's student population. The Mississippi Department of Education has selected one such behavioral intervention strategy as its recommendation for implementation as a

part of the three tier structure mandated by the State Board of Education (Mississippi Department of Education, 2010b). The department has selected the Positive Behavior Interventions and Support Model, as developed by Drs. Robert Horner and George Sugai of the University of Oregon (Sugai, et al., 2002).

The school-wide positive behavior interventions and supports as a behavior intervention model are founded in the framework of differentiated instruction. Differentiated instruction requires all aspects of the educational process be as diverse as the needs of the individual learners; including both academic and behavioral aspects (Tomlinson & McTighe, 2006). As it is designed, SWPBIS offers three tiers or levels of support and interventions to students. All students receive Tier 1 which includes instruction in appropriate school-based behavior. The interventions utilized at each level become more intensive as a student progresses through the tier structure (Sugai, et al., 2002).

Existing research has shown that this model, when implemented school-wide, has reduced the overall number of office discipline referrals at the building level. However, currently there is a limited body of research into the implications this program has on student achievement as measured by student performance on criterion-referenced assessments (U. S. Department of Education, 2008). In an era where school leaders feel that they must choose between students' social development and increased academic achievement, this study will contribute to determining if the implementation of a SWPBIS program on a school-wide basis correlates with an increase in the level of student achievement (U. S. Department of Education, 2009).

CHAPTER III

METHODOLOGY

Introduction

A review of the current literature has revealed that incidents of student misbehavior have risen in recent years. The review has indicated that not only are these incidents becoming more numerous, but they have also increased in their severity. The causes for this rise in frequency and severity are linked to factors which are found to occur both inside and outside of the classroom environment.

From a further review of the literature it can be determined that student behavior impacts student achievement. Specifically, acts of misbehavior on the part of students directly impacts instructional time for teachers, instructional supervision time for administrators, and time engaged in instructional activities for students. Losses in instructional time are reflected in lower levels of student achievement as measured by criterion-referenced assessments. To address student behavior, the Mississippi Department of Education has mandated the use of a Positive Behavior Intervention and Support model of intervention. School systems across the state are currently in varying stages of implementing this model. For those who have implemented a SWPBIS model on a school-wide basis the question remains of the impact this specific intervention has on student achievement results as measured by the Mississippi Curriculum Test 2nd edition.

Research Design

To measure the impact of the SWPBIS program's implementation the researcher gathered archival data from the Mississippi Department of Education and submitted a questionnaire to positive behavior specialists employed in schools utilizing a SWPBIS model and those employed in schools utilizing other behavioral interventions. Prior to accessing the website for the collection of data, or beginning to conduct interviews; the researcher sought the permission of The University of Southern Mississippi's Institutional Review Board (Appendix A) for permission to move forward. The Mississippi Department of Education made archival data regarding school achievement results available to the public via their website. This data was updated annually each fall as the spring data was made public.

The second step of the data collection required the researcher to collect archival data from the Mississippi Department of Education website. The data which was collected included the third grade scale score in language arts and mathematics for each school which was included in the study. Data was collected from three years: the year of initial implementation of a SWPBIS model (Spring 2008), the years during implementation of a SWPBIS model (Spring 2009 and Spring 2010), and the year post implementation (Spring 2011). This data was available to the public and did not require a request for release from the school systems' superintendents or the State Superintendent of the department of education. However, a request was submitted to each school system's superintendent prior to the data collection (Appendix B), along with a consent

form for participation in the study. For those districts not responding to the initial request after a sufficient amount of time had lapsed, a follow-up request was submitted.

The third step was to garner information from questionnaires which were submitted by positive behavior specialists from both Group 1 and Group 2 schools. The researcher created a questionnaire designed to elicit responses which would identify if the SWPBIS model had been implemented with fidelity and what procedures were followed in its implementation. The questionnaire to be utilized in this portion of the process (Appendix D), along with a consent form for participation in the study (Appendix E), was submitted to The University of Southern Mississippi's Institutional Review Board for approval prior to beginning. The questionnaire was also designed to gauge positive behavior specialists' perspective on the impact of a SWPBIS program. For those positive behavior specialists not responding to the initial questionnaire after a sufficient amount of time had lapsed, a follow-up questionnaire was submitted.

The purpose of this study was to determine if there was a relationship between the implementation of a school-wide Positive Behavior Intervention and Support (SWPBIS) program and student achievement. The study was utilized to determine if there was a relationship between the implementation of a school-wide Positive Behavior Intervention and Support program and student attendance as reported by the school's average daily attendance (ADA). Therefore, the following hypotheses and research question served as the guide for this study:

H_{01}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{02}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{03}: There will be no relationship between the initial implementation of SWPBIS average daily attendance rates and those reported during implementation, and post-implementation of the SWPBIS program.

H_{04}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

H_{05}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the mathematics portion of

the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

Research Question: Do positive behavior specialists working in schools that utilize a SWPBIS model feel that it is an effective means of managing student behavior, and thereby impacting student achievement?

Participants

For the purposes of this study, the researcher gathered data from the 16 school districts located in the six southernmost counties in the state of Mississippi: Pearl River, Stone, George, Hancock, Harrison, and Jackson counties. As the study focused exclusively on third grade achievement results, only the 64 elementary schools in those districts which contain grade three were to be included in the study. Grade three was selected for this study as under this current version of the assessment it is the first grade at which student achievement data is collected and compared across the state. Prior to the second edition of the Mississippi Curriculum Test, assessment began with grade two. With the implementation of the second edition, grade three now provides the baseline for measuring student achievement and growth.

These school districts comprised the study sample for the statistical analysis. The sample from the six southernmost counties was diversified and was believed to provide an accurate sampling reflection of the state's population. It included representation from the varying racial, cultural, and socio-economic

subsets of the inhabitants of Mississippi. The primary reporting categories were gender; race with the subcategories of Asian, Black, Hispanic (His.), Native American (N.A.), and White, and economically disadvantaged (Econ. Dis.).The demographic categorical breakdown of student populations for the districts included in the study was included in the public domain of the Mississippi Department of Education Office of Healthy Schools, website and outlined in Table 3.

Table 3

Statistical Composite of Study Subjects

	% by Gender		% by Race					% of Econ. Dis.
	Female	Male	Asian	Black	His.	N.A.	White	
State	49%	51%	1%	50%	2%	0%	46%	76%
District A	48%	52%	2%	21%	2%	0%	75%	100%
District B	49%	51%	6%	37%	7%	0%	51%	65%
District C	48%	52%	0%	10%	2%	0%	88%	70%
District D	50%	50%	1%	53%	4%	0%	42%	69%
District E	48%	52%	1%	5%	2%	0%	91%	67%
District F	49%	51%	3%	27%	3%	0%	66%	63%
District G	49%	51%	4%	9%	2%	0%	85%	85%
District H	52%	48%	3%	14%	3%	1%	79%	49%
District I	48%	52%	0%	73%	1%	0%	25%	84%
District J	51%	49%	4%	12%	4%	0%	80%	37%
District K	48%	52%	2%	47%	9%	0%	42%	73%
District L	49%	51%	3%	31%	2%	0%	64%	64%
District M	47%	53%	0%	31%	3%	0%	65%	73%
District N	49%	51%	0%	5%	2%	0%	93%	61%
District O	49%	51%	0%	15%	1%	0%	83%	70%
District P	49%	51%	0%	24%	1%	0%	74%	65%

Instrumentation

This study utilized two methods of data collection for purposes of statistical analysis. First the researcher sent a letter to the superintendent of each school system who was represented in the study. In the letter the researcher listed each elementary school that was included in the study. Beside the name of each school there was a place for the superintendent or their designee to indicate if the named school utilized a school-wide SWPBIS program during the 2009-2010 school year.

Once this information was returned the researcher redefined the scope of the additional data that was collected based on the responses received. The schools were separated into two subcategories representing the presence or lack thereof a SWPBIS program for the school year after the state mandated the school-wide implementation. The researcher accessed archival school level student achievement data via the Mississippi State Department of Education's website. This data was available to the public and did not require any specific instrumentation.

The additional piece of instrumentation that was utilized was the researcher-developed questionnaire. The questionnaire included a limited number of questions. The questions focused on positive behavior specialists' perspectives on the behavior intervention program utilized in the school setting in which they were employed. The questions also probed schools' fidelity of implementation and procedures for implementation of the SWPBIS model.

Procedures

The first phase of the data collection was based upon the receipt of the responses from positive behavior specialists. In their responses they indicated the time frame that the elementary schools they serviced utilized a school-wide SWPBIS model. The schools were then divided into two categories based on these responses: those who utilized a school-wide SWPBIS model and those who did not. This division was maintained throughout the statistical analysis of the data to be conducted by the researcher.

The primary portion of the data that were subjected to statistical analysis for this study was collected from a publicly accessible portion of the Mississippi Department of Education's website. The data included in the study were the scale scores in language arts and mathematics as measured by the MCT2. Specifically the data was derived from the 2008, 2009, 2010, and 2011 administrations of the MCT2. The next administration of the MCT2 will transpire in May of 2012. The data from this administration, however, will not be available to the school systems until June of 2012 and to the public until the fall of 2012. The schools' corresponding annual Average Daily Attendance rates were gathered in the same manner.

The schools which were included in the study were assigned school codes, as designated by the researcher. Each school's scale scores were not included in the research findings by school name. This step was used to insure the anonymity of all study participants.

Data Analysis

Based upon the division of schools into two separate categories, those who utilized a SWPBIS model and those who did not, a code per school was assigned by the researcher. The school codes with their accompanying scale scores were then entered into the SPSS software program for a relationship analysis of both subsets of schools. This provided a relationship between student achievement and schools which used SWPBIS. To determine this relationship the researcher performed a repeated measures ANOVA analysis of the data. A comparison between student achievement and schools not utilizing a SWPBIS model was also determined utilizing this analysis.

The findings are reported in both narrative form and included tables for visual representation. Included in the findings is a report of the data utilized to conduct the analysis. They also include the degrees of freedom, the observed value of the relationship, and level of significance of that value.

For the questionnaire portion of the study the researcher compiled the written version of the participants' responses. The responses were sorted based on the positive behavior specialist working in a Group 1 or Group 2 classification school. They were then correlated with the corresponding achievement and attendance data previously compiled for the specific school for which they had provided intervention services. After the responses had been sorted they were thematically coded for analysis.

Summary

The purpose of this study was to determine the relationship between student achievement, as defined by scale scores achieved on the 3rd grade language arts and mathematics portions of the MCT2 and the school-wide utilization of a SWPBIS model. The study participants included the elementary schools which house third grade students in the six southernmost counties in the state of Mississippi. Correspondence was mailed to the superintendents of these districts, asking them for permission to utilize their data in terms of mean scale scores as measured by the MCT2 and ADA for school years beginning with 2007-2008and spanning 2010-2011. Correspondence in the form of a questionnaire was mailed to positive behavior specialists to ascertain the fidelity of implementation of the SWPBIS model on a school-wide basis.

After these responses were gathered, the corresponding student achievement data and attendance rates were collected from the Mississippi Department of Education. This data is archival and available to the public via the department's website. These achievement scores and attendance rates were then matched to their corresponding schools.

Once the process of data collection was completed, a statistical analysis of the data was conducted. Specifically a mixed model analysis of variance was used to analyze the data for changes in language arts and mathematics scores over time with scores grouped depending on whether schools had used SWPBIS. For this analysis, data was entered into the SPSS software. Other factors included the number of years of use of SWPBIS, average number of

hours of service provided by a positive behavior specialist, and rates of average daily attendance. The existence of a relationship was first determined and then measured to determine its strength.

CHAPTER IV

RESULTS

Overview

This study was conducted to determine if there is a significant relationship between the four year implementation of a Positive Behavior Intervention and Support (SWPBIS) model for behavioral interventions and student achievement as measured by the Mississippi Curriculum Test 2nd Edition (MCT2) in the areas of language arts and mathematics. The data reported in this chapter reflects scale score results from 2007-2008, 2008-2009, 2009-2010, and 2010-2011. Other variables which were considered in conducting this study included student average daily attendance rates for the same four-year period, the average amount of service hours provided to each school by a positive behavior specialist on a weekly basis, and how each school had elected to implement the model.

The researcher began the data collection process by accessing the Mississippi Assessment and Accountability Reporting System (MAARS) which is available via the Mississippi Department of Education website. From this system the researcher was able to attain the school level scale scores in language arts and mathematics attained by 3rd grade students from each of the four years that the MCT2 has been utilized. Through MAARS the researcher was also able to attain the annual Average Daily Attendance (ADA) rate reported for each school for each of the four years that the MCT2 has been administered.

Additional data was obtained from the positive behavior specialists servicing each of the schools included in the study. The positive behavior specialists responded to a questionnaire provided by the researcher. They

provided responses to questions of: the average number of service hours provided to each school location, if the use of a SWPBIS model is mandated in school policy, percentages of students receiving functional behavioral assessments and behavior intervention plans, at what point in the process a functional behavior assessment or behavior intervention plan is implemented, and how the behavior specialist rated the overall effectiveness of a SWPBIS model.

Data Analysis

The scale scores achieved on the MCT2 for language arts and mathematics (n = 33), as outlined in Table 4, showed variability across the four years of implementation. The language arts scores ranged from a low of 143.3 to a high of 160.0. The mathematics scores ranged from a low of 144.4 to a high of 167.7. There was little variability in reported rates of average daily attendance, which is also outlined in Table 4. The lowest rate reported was 94% while the highest rate reported was 97%.

Table 4

Third Grade MCT2 Mean Scale Scores in Language Arts, and Mathematics with Average Daily Attendance Rates

	Mean Scale Score	SD	Skew
Language Arts 2008	150.981	3.405	.499
Language Arts 2009	150.914	3.363	-.097
Language Arts 2010	151.105	3.141	.751
Language Arts 2011	151.502	4.057	.174
Mathematics 2008	152.672	4.010	.173
Mathematics 2009	153.661	4.163	-.077
Mathematics 2010	153.914	3.136	.526
Mathematics 2011	154.485	5.257	.179
ADA 2008	95.411	.957	.157
ADA 2009	95.558	.894	.218
ADA 2010	95.323	.878	-.135
ADA 2011	95.352	.848	-.140

The data reported by the positive behavior specialists showed variability. 52.2% of the respondents (n=34) reported that they had been employed in the position of positive behavior specialist for four years. However, only 17.6% reported that they had been employed by their current school district for that same period of time. 77.8% of the respondents reported that their school had

utilized the SWPBIS model for the period ranging from the 2007-2008 school year until now, which is in keeping with the recommendations made by the Mississippi Department of Education in its adoption of the three tier model for academic and behavioral interventions (Mississippi Department of Education, 2010b).

The greatest variability was reported for the average number of hours the specialist provided services to the school on a weekly basis. Responses ranged from a low of three hours per week to a high of 40 hours per week. Those responding that they were employed full time at one school location, or for 40 hours per week, equaled to 37% of the respondents. The second largest group, 25.9%, reported servicing schools on a half-time basis by providing services for an average of 20 hours per week.

Policies and procedures for the implementation of the SWPBIS model varied within school districts by school locations. Only 29.4% of the respondents reported that the use of a SWPBIS model was outlined in their school board policy. While 32.4% stated that the usage of the model was addressed in their school's student handbook. Implementation also varied as to what event triggered the initiation of a Behavior Intervention Plan (BIP) or Functional Behavioral Assessment. This variability is outlined by percentage of respondents in Table 5, with some respondents reporting multiple initiating events.

Table 5

Event which Initiated a BIP or FBA

	BIP	FBA
Set number of discipline referrals	26.4	23.4
Teacher referral	8.8	0
Severe discipline infraction	58.8	49.8
Tier 2 placement	50	0
Tier 3 placement	67.6	61.6

Of the positive behavior specialists responding to the questionnaire, 50% reported that 0-24% of the students they served had a BIP in place, and 23.5% reported that 25-49% of the students had a BIP in place. In terms of FBAs, 79.4% of the respondents reported that 0-24% of the students had been evaluated utilizing such an assessment.

In order to test the hypotheses which guided this research, a mixed model analysis of variance (ANOVA) was conducted. There were no main effects or interactions noted in the data. The closest to significant effect that was detected was the main effect of mathematics scores over language scores over time with scores grouped depending on whether schools had utilized SWPBIS; $F(3, 99) = 2.185$, $p = .095$. For this analysis the group variable which was utilized was the use of a SWPBIS model for four years as opposed to those that did not have such a model in place for a period of four years. The test year variable

corresponded with the four year time span over which the test was given, and the subject area was a reflection of either language arts or mathematics. The main effect demonstrated that language arts scores were lower than mathematics scores across all other variables.

This study also asked the following research question: Do positive behavior specialists working in schools that utilize a SWPBIS model feel that it is an effective means of managing student behavior, and thereby impacting student achievement? In response to this question the 18.5% of the positive behavior specialists were neutral as to its impact, 70.4% agreed that it had caused a decline, and 11.1% strongly agreed it had caused a decline in incidents of student misbehavior.

Summary

The results provided by this statistical analysis have led the researcher to fail to reject the null hypotheses for four of the five hypotheses which guided this research project. None of these four hypotheses were supported by statistically significant findings in the data. The four accepted null hypotheses were:

H_{01}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{03}: There will be no relationship between the initial implementation of SWPBIS average daily attendance rates and those reported during implementation, and post-implementation of the SWPBIS program.

H_{04}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

H_{05}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

The exception to the failure to reject the null was that of H_{02}. The hypothesis stated:

H_{02} : There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

The results showed a slight increase in mathematics scores over the course of the four-year period of implementation of a SWPBIS model. In contrast the language arts scores showed no such progression. The rates of average daily attendance showed little variability across time.

Data gathered from the questionnaire which utilized positive behavior specialists as respondents was utilized to answer the research question. Research Question: Do positive behavior specialists working in schools that utilize a SWPBIS model feel that it is an effective means of managing student behavior, and thereby impacting student achievement? Although data was not gathered to reflect their thoughts on student achievement, their responses did seem to indicate that they agreed that the use of a SWPBIS model has caused a decline in incidents of student misbehavior.

CHAPTER V

DISCUSSION

Introduction

This study was designed to determine if a relationship existed between the utilization of a Positive Behavior Intervention and Support (SWPBIS) model and student achievement. As results-oriented institutions, student achievement is the standard by which schools are judged. Thereby, any interventional strategy which is implemented is done so with the goal of positively impacting student achievement results. Behavioral interventions which can improve student achievement have become increasingly significant in recent years. As school systems are seeing an increase in the frequency and severity of student discipline infractions they are seeking ways to combat this rise as they search out methods for improving educational outcomes for students.

Conclusions

A statistical analysis of the data found very little significance in the relationship between the utilization of a SWPBIS model for behavior interventions when measured across the factors of number of years of implementation, language arts scale scores, mathematics scale scores, and the number of hours of service provided by a positive behavior specialist. The researcher examined factors impacting the following hypotheses and research question.

H_{01}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation),

2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{02}: There will be no difference between the initial SWPBIS implementation and post SWPBIS implementation scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition, as administered during the spring of 2008 (initial implementation), 2009 (during implementation), 2010 (during implementation), and 2011 (post-implementation).

H_{03}: There will be no relationship between the initial implementation of SWPBIS average daily attendance rates and those reported during implementation, and post-implementation of the SWPBIS program.

H_{04}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the language arts portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

H_{05}: There will be no difference in achievement results as measured by the scale scores received by third grade students on the mathematics portion of the Mississippi Curriculum Test 2nd edition as administered for a four year period spanning 2008-2011 for those schools which had utilized a SWPBIS model for that four year period (Group 1) and those schools which did not utilize such a model at all or for the entire four year span (Group 2).

Research Question: Do positive behavior specialists working in schools that utilize a SWPBIS model feel that it is an effective means of managing student behavior, and thereby impacting student achievement?

The only main effect that was close to statistically significant upon analysis of the data, was a slight increase in scale scores in mathematics when compared to language arts scale scores across all other factors. For this analysis the researcher used a mixed model analysis of variance. The increase in mathematics scores as compared to language arts scores can be charted across time for a linear progression. This progression is demonstrated in Figure 2.

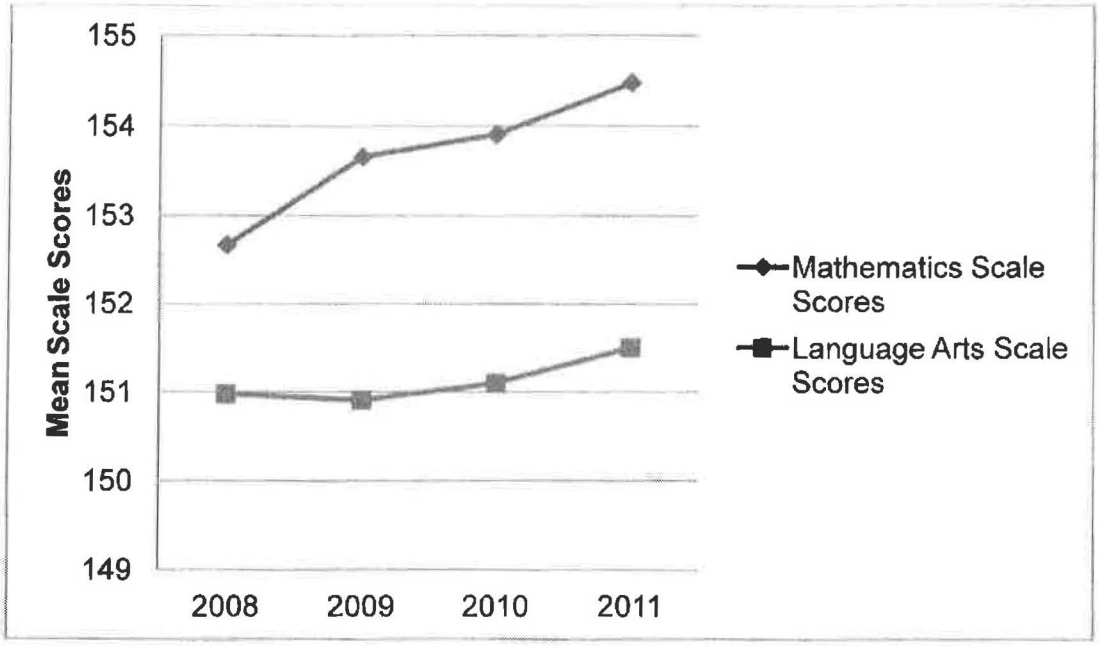

Figure 2 The Linear Progression of Mathematics Scale Scores in Comparison with Language Arts Scale Scores

Based on these findings the researcher accepted the null hypotheses in each instance with the exception of H_{02}. In this instance the mathematics scale scores indicated a slight increase. However, the finding was not significant enough to substantiate that it was the use of a SWPBIS model which had an effect upon this increase. No effect of statistical significance could be found between the use of a SWPBIS model and language arts scale scores, the use of a SWPBIS model and rates of average daily attendance, the use of SWPBIS across a four-year span as opposed to those not utilizing this model during the same time span across language arts and mathematics scale scores or rates of average daily attendance.

Discussion

A review of the literature indicated that student discipline is a cause for concern as an impediment to the instructional process. It has been documented that the repeated instances of misbehavior result in significant losses in instructional time, thereby negatively impacting student achievement (Walker, et al., 2004). Previously utilized behavior management models have focused on punitive measures and have proven to be ineffective (Hinchey, 2003). Federal and state legislation has addressed these concerns by instituting behavioral interventions as a means of supporting positive behavioral outcomes for students. Specifically the state of Mississippi has adopted a three tier structure for providing both academic and behavioral supports to students. Although not mandated, the Mississippi Department of Education has recommended the use of a SWPBIS model as the framework for the delivery of behavioral interventions (Mississippi Department of Education 2010b).

The researcher found no statistically significant evidence to support the use of a SWPBIS model in reference to any positive impact upon student achievement results. The data also failed to demonstrate an impact upon student attendance rates either. However, it is noteworthy that the data did not indicate that the rates of student attendance had an impact upon student achievement in language arts or mathematics either. This is noteworthy as the state of Mississippi has selected average daily attendance rates as its other academic indicator of choice when meeting No Child Left Behind federal reporting requirements. The data indicated very little variance in rates of attendance by

schools across the four-year period covered by the study. With a high of 97% and a low 94%, these attendance rates were reported across all spectrums of scale scores obtained through the study.

Positive Behavior Supports and Interventions

Positive Behavior Supports and Interventions (SWPBIS) is a framework for the school-wide implementation of behavioral interventions. It is founded upon the principles first established with differentiated instruction, in that the intervention is designed to meet the individual need of the student (Tomlinson & McTighe, 2006). The SWPBIS model is also rooted in theory of behaviorists such as B.F. Skinner who proposed operant conditioning as a means of managing desirable behavioral outcomes (Skinner, 2005).

With this model students are provided with a continuum of behavioral interventions and supports which are designed to be increasingly substantial as the severity of the need increases. Tier 1 is the primary level, which is offered to all students. It is emphasized at this level that all students are provided direct instruction in behavioral expectations. In this manner, SWPBIS mirrors differentiated instruction by negating a student's cultural, experiential, or social differences as a causal factor for disruptive behavior (Stormont, et al., 2008).

The use of a SWPBIS model is not unique to the state of Mississippi. Other states, such as Illinois, have used this model for a significant period of time to determine that schools that did not utilize this model on a school wide basis lost 945 days of instructional time over 10 years as compared to schools which utilized full implementation (Illinois SWPBIS Network, 2008b). It is also notable

that during that same time period minority students in Illinois showed gains three times as great as those in other states on the Nation's Assessment of Educational Progress (Schomoker, 2006).

Limitations

Limitations on this study were inherent in the research design. These limitations may have contributed to the lack of significant findings in the data analysis. Those limitations are as follows:

1. The data generated from this study were applicable to the state of Mississippi only.
2. Only two measures of student achievement, the language arts and mathematics scores derived from the MCT2, were utilized as a means of determining overall level of student achievement.
3. The Mississippi Curriculum Test 2nd Edition has only been utilized in the state of Mississippi for a four year period. For more significant, longitudinal findings a valid assessment instrument must be in place for a greater period of time.
4. The average daily attendance rates were reported by schools. Had the researcher been able to aggregate the data down to the grade in question there might have been greater variability in attendance rates.
5. Rates for discipline infractions were not available to the researcher. In the development of the methodology section of this study the researcher sought guidance on this variable from building level administrators. The variability for the capturing and reporting of this

data is extensive. In many instances administrators were unable to provide this data for a period of time greater than the previous two years.

Delimitations

The following delimitations were set for the study by the researcher:

1. The study will be limited to third grade level students and will not include data from any higher elementary or secondary settings.
2. The measured post implementation achievement scores will be taken after only four full years of the SWPBIS implementation; therefore, no longitudinal data will be provided by the study.

Recommendations

Based upon the findings of this study alone, the researcher would be unable to recommend a SWPBIS model as a means for improving student achievement in the state of Mississippi. However, a review of the literature has provided credible research to indicate that when utilized with fidelity for a significant period of time, SWPBIS has provided effective gains in student achievement. This model, like any other instructional methodology, must be in place over time for results to be both significant and credible.

District level and building level administrators may note that this study found a large degree of variability in the fidelity of the implementation and procedures for implementing a SWPBIS model on a school wide basis. Only 29.4% of the respondents cited that the use of a SWPBIS model was outlined in their school board policy, and only 32.4% cited it as being referenced in the

student handbook. This lack of clear policy hampers the fidelity of the implementation of the program.

A recommendation for administrators would be the collaborative development of a local policy for school board adoption. This collaborative effort should include at a minimum the following stakeholders: administrators, parents, students, positive behavior specialists, other support staff, community members, and staff from the local mental health agency. The policy would need to include specific phases for implementation with clear guidelines for the utilization of behavior intervention plans, and functional behavioral assessment; the use of which also varied greatly within the study.

Recommendations for Future Research

Future research regarding the effectiveness of the SWPBIS model must be longitudinal in nature. This may be difficult to achieve as Mississippi and other states across the nation begin to adopt the common core standards. With this adoption the MCT2 will cease to be the standard of measurement for student achievement in 2014. Thereby the length of its use for longitudinal data will be from 2007-2014. Data taken from this assessment will differ and therefore not be comparable to that attained by the new common core assessments.

Future research should also include a measure for obtaining data from office discipline referrals. This measure should be developed and put into place prior to the institution of the study. This measure should be made available to building administrators on an annual basis so that data can be collected and stored for future use. Current student data systems do not store discipline data

for extended periods of time. They are also designed to delete any discipline file on any student who is removed from the system, such as a student who transfers out of the district.

Some discipline data is available in archival form from the Mississippi Department of Education. This data, however, is only limited to those offenses which are deemed as serious by the department. Even this data is questionable in its efficacy as it is often deemed serious based on the disposition of punishment which accompanied the offense. According to building administrators, dispositions can vary for the exact same offense from school to school.

To accompany the discipline data, the rates of out of school suspensions should also be included in any further studies. The literature reflects that these suspensions constitute a lack of instructional time. Future research should determine if these rates do have a significant impact on student achievement. If so, further determinations should be made as to the impact a SWPBIS model has on rates of student suspensions.

Future research should also take into consideration the fidelity of implementation of the SWPBIS model. The professional development that the staff received prior to the implementation would be relevant for evidence of fidelity in implementation. Ongoing professional development post-implementation would also be relevant for future research. Determining the fidelity of the implementation would be a critical component to measuring the model's effectiveness.

Summary

The belief that the implementation of a School-Wide Positive Behavior Supports and Intervention would show a significant positive impact on the levels of student achievement drove the development of this study. However, that was not the finding provided by the statistical analysis of the data. This lack of finding may be attributable to the limitations of the study more so than the effectiveness of the model as a behavioral intervention tool.

The emphasis placed on student achievement had brought pressures to bear on school administrators, teachers and students. This pressure is further exacerbated by the rise in incidents of student misbehavior. Therefore, individual schools and school districts are seeking solutions to both. The Mississippi Department of Education has recommended the SWPBIS model as a means of addressing student discipline, while increasing student achievement. Various grant programs have been put in place across the state to foster the development of these programs. Further research will need to be utilized to determine if the model has produced the intended effect.

Pending changes to the curriculum utilized across the state may make longitudinal study of the effectiveness of the model difficult to ascertain. Furthermore, the lack of consistency in the data collection of office discipline referrals will also impede future research. One finding this study did produce was the lack of continuity across school districts and across the state in terms of the efficacy of student discipline data and the fidelity of implementation of the three-tier instructional and behavioral intervention process.

APPENDIX A

IRB FORM

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

The risks to subjects are minimized.

The risks to subjects are reasonable in relation to the anticipated benefits.

The selection of subjects is equitable.

Informed consent is adequate and appropriately documented.

Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.

Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.

Appropriate additional safeguards have been included to protect vulnerable subjects.

Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".

If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **12013104**

PROJECT TITLE: **The Relationship between Schools Utilizing Positive Behavior Interventions and Supports for a Three-Tier Behavior Model and Student Achievement**

PROJECT TYPE: **Dissertation**

RESEARCHER/S: **Lori Massey**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Educational Leadership**

FUNDING AGENCY: **N/A**

IRB COMMITTEE ACTION: **Expedited Review Approval**

PERIOD OF PROJECT APPROVAL: **02/09/2012 to 02/07/2013**

Lawrence A. Hosman, Ph.D.

Institutional Review Board Chair

APPENDIX B

SUPERINTENDENT NOTIFICATION

Lori Herrington Massey

12601 Deer Ridge Drive

Wilmer, AL 36587

Dear Superintendent:

I, Lori Massey, am a graduate student at the University of Southern Mississippi conducting research on the relationship between the use of a school-wide positive behavior intervention and support model as a three tier model of behavior intervention and student achievement results. The achievement results will be gathered from archival data from the Mississippi Department of Education public access website in the form of school-level scale scores in language arts and mathematics on the MCT2 from the school years 2008-2011. In addition, I would like your permission for your positive behavior specialist(s) to provide information regarding the services they provide in terms of functional behavioral assessments and behavior intervention plans utilizing a questionnaire. The positive behavior specialist(s) will not be asked to provide their name, or any other identifying information on the questionnaire. The questionnaire has been attached for your review.

No school names or district-identifying information will be utilized in the reporting of this data. There are little to no risks and little to no immediate benefits for participating in this research project. However, participating school districts will be provided access to any findings generated by this study. Participation in this study is completely voluntary, and the district may withdraw at any time without penalty or prejudice. In addition, respondents may refuse to answer any item included on this questionnaire for any reason.

Please complete the attached consent form granting permission for your district to participate in this study. If you have any questions you may contact me at 251-709-1713. This research will be submitted as a part of a dissertation study and will be published as a dissertation at the University of Southern Mississippi if you would like to see the results. This project has been reviewed and approved by the Institutional Review Board. Any questions or concerns about rights as a research participant should be directed to the chair of the Institutional Review Board of the University of Southern Mississippi at 118 College Drive #5147, Hattiesburg, MS 39406, or 601-266-6820.

Thank you for your assistance with this research project.

Sincerely,

Lori Massey, Doctoral Student, USM

APPENDIX C

THE UNIVERSTIY OF SOUTHERN MISSISSIPPI

AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Consent is hereby given to participate in the study titled:

The Relationship between Schools Utilizing School-wide positive behavior interventions and supports

For a Three Tier Behavior Model and Student Achievement

1. Purpose: The purpose of this study is to examine the impact of a Positive Behavior Intervention and Support Program on student achievement in language arts and mathematics as measured by state achievement assessments.
2. Description of Study: The proposed methodology for this study is a mixed method that would include a questionnaire and archival data in the form of achievement results for the school years 2008-2011.
3. Benefits: All participating school districts will be provided access to the findings generated by this study.
4. Risks: Questionnaire participants must give up 10-15 minutes of their personal time to participate in the study.
5. Confidentiality: Individual responses to interview questions will not be identified. Schools will not be identified in the study by name or by any other distinguishing factor. Participants may refuse to answer any item for any reason.
6. Participant's Assurance: Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and school districts may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to researcher Lori Massey at 251-709-1713. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406, (601) 266-6820.

In conformance with the federal guidelines, the signature of the participant must appear on all written consent documents.

_____ _____

Signature of the Research Participant Date

_____ _____

Signature of the Researcher Date

Participant's Initials _____

APPENDIX D

QUESTIONNAIRE

Positive Behavior Specialist Questionnaire

of years you have been employed as a Positive Behavior Specialist: _____

# of years you have been employed in your current school district: _____

Please provide the following information for each elementary school you serve.

Elementary School 1: _____ # of Years SWPBIS has been utilized: _____ Average # of hours per week you provide services to this location: _____

1. The use of a SWPBIS model by school staff is outlined in: (Please check all that apply.)

___school board policy ___student handbook ___faculty handbook

___other: _____.

2. A Functional Behavioral Assessment (FBA) is **first** conducted on a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

3. I estimate the percentage of the student population that receives an FBA to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

4. A Behavior Intervention Plan (BIP) is **first** developed for a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction ___other:_____.

5. I estimate the percentage of the student population placed on a BIP to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

6. In your opinion, to what extent do you agree that the use of a SWPBIS model has caused a decline in the incidents of student misbehavior?

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Elementary School 2: _____ # of Years SWPBIS has been utilized: _____ Average # of hours per week you provide services to this location: _____

1. The use of a SWPBIS model by school staff is outlined in: (Please check all that apply.)

___school board policy ___student handbook ___faculty handbook ___other: _____.

2. A Functional Behavioral Assessment (FBA) is **first** conducted on a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction ___other:_____.

3. I estimate the percentage of the student population that receives an FBA to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

4. A Behavior Intervention Plan (BIP) is **first** developed for a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction ___other:_____.

5. I estimate the percentage of the student population placed on a BIP to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

6. In your opinion, to what extent do you agree that the use of a SWPBIS model has caused a decline in the incidents of student misbehavior?

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Elementary School 3: _____ # of Years SWPBIS has been utilized: _____ Average # of hours per week you provide services to this location: _____

1. The use of a SWPBIS model by school staff is outlined in: (Please check all that apply.)

___school board policy ___student handbook ___faculty handbook

___other: _____.

2. A Functional Behavioral Assessment (FBA) is **first** conducted on a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

3. I estimate the percentage of the student population that receives an FBA to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

4. A Behavior Intervention Plan (BIP) is **first** developed for a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

5. I estimate the percentage of the student population placed on a BIP to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

6. In your opinion, to what extent do you agree that the use of a SWPBIS model has caused a decline in the incidents of student misbehavior?

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Elementary School 4: _____ # of Years SWPBIS has been utilized: _____ Average # of hours per week you provide services to this location: _____

1. The use of a SWPBIS model by school staff is outlined in: (Please check all that apply.)

___school board policy ___student handbook ___faculty handbook

___other: _____.

2. A Functional Behavioral Assessment (FBA) is **first** conducted on a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

3. I estimate the percentage of the student population that receives an FBA to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

4. A Behavior Intervention Plan (BIP) is **first** developed for a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

5. I estimate the percentage of the student population placed on a BIP to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

6. In your opinion, to what extent do you agree that the use of a SWPBIS model has caused a decline in the incidents of student misbehavior?

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Elementary School 5: _____ # of Years SWPBIS has been utilized: _____ Average # of hours per week you provide services to this location: _____

1. The use of a SWPBIS model by school staff is outlined in: (Please check all that apply.)

___school board policy ___student handbook ___faculty handbook

___other: _____.

2. A Functional Behavioral Assessment (FBA) is **first** conducted on a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction

___other:_____.

3. I estimate the percentage of the student population that receives an FBA to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

4. A Behavior Intervention Plan (BIP) is **first** developed for a student when:

___they reach Tier 2 ___they reach Tier 3 ___they receive a set number of office discipline referrals ___they commit a severe discipline infraction ___other:_____.

5. I estimate the percentage of the student population placed on a BIP to be:

___0%-24% ___25%-49% ___50%-74% ___75%-100%.

6. In your opinion, to what extent do you agree that the use of a SWPBIS model has caused a decline in the incidents of student misbehavior?

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

APPENDIX D

THE UNIVERSTIY OF SOUTHERN MISSISSIPPI
AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Consent is hereby given to participate in the study titled:

The Relationship between Schools Utilizing School-wide positive behavior interventions and supports

For a Three Tier Behavior Model and Student Achievement

1. Purpose: The purpose of this study is to examine the impact of a Positive Behavior Intervention and Support Program on student achievement in language arts and mathematics as measured by state achievement assessments.
2. Description of Study: The proposed methodology for this study is a mixed method that would include a questionnaire and archival data in the form of achievement results for the school years 2008-2011.
3. Benefits: All participating school districts will be provided access to the findings generated by this study.
4. Risks: Questionnaire participants must give up 10-15 minutes of their personal time to participate in the study.
5. Confidentiality: Individual responses to interview questions will not be identified. Schools will not be identified in the study by name or by any other distinguishing factor. Participants may refuse to answer any item for any reason.
6. Participant's Assurance: Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to researcher Lori Massey at 251-709-1713. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406, (601) 266-6820.

In conformance with the federal guidelines, the signature of the participant must appear on all written consent documents.

_____ _____

Signature of the Research Participant Date

_____ _____

Signature of the Researcher Date

Participant's Initials _____

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